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(54) **SILICON CARBIDE-COATED SUSCEPTOR**

(57) Abstract:

PROBLEM TO BE SOLVED: To manufacture the subject susceptor having improved service life and reliability by repeating the operation that comprises evacuating a reaction vessel in which a carbon base material is received; and thereafter allowing gaseous reactants to flow through the reaction vessel, to form a silicon carbide coating film on the carbon base material by a pulse chemical vapor impregnation method for filling the base material with silicon carbide from the insides of the pores

SOLUTION: In the pulse vapor impregnation method (pulse CVI method) for the manufacture of this susceptor, gaseous reactants are allowed to flow through a reaction vessel at a comparatively lower temp. to cool the surface of a carbon base material and therefore, the carbon base material is filled with silicon carbide from the insides of the pores that are not cooled, and also, the resulting silicon carbide coating film uniformly and densely formed while filling the carbon base material with silicon carbide, is hardly peeled off. As the carbon base material, graphite, carbon fiber or a C/C composite material can be used. The manufacture of the susceptor, for example, comprises: placing a graphite preform 2 formed into a susceptor shape inside a reaction vessel 1; and several thousand to several hundred thousand times repeating one pulse operation that comprises evacuating the reaction vessel 1. and

thereafter retaining raw material gaseous reactants in the reaction vessel 1 in order to instantaneously perform filling of the graphite preform 2 with silicon carbide and deposition of silicon carbide on the graphite preform 2, to coat the graphite preform 2 with silicon carbide at 700 to 1,000°C.

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